# 2011x/2011s/2011xi
# 2211f/2211x
# 2311cm/2311f/2311x/2311xi
# 2511x
# 2711x
# LCD Monitors

User Guide

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# About This Guide

This guide provides information on safety and maintenance, setting up the LCD monitor, installing drivers, using the on-screen display menu, troubleshooting and technical specifications.

**WARNING!** Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.

**CAUTION:** Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

**NOTE:** Text set off in this manner provides important supplemental information.

**TIP:** Tips provide helpful hints or shortcuts.

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# 1 Product Features

## LCD Monitors

**Figure 1-1** LCD Monitors

The HP LCD (liquid crystal display) monitors have an active matrix, thin-film transistor (TFT) screen with an LED backlight and the following features:

- Large diagonal display
- Maximum graphics resolution
  - 2011x/ 2011xi/ 2011s: 1600 x 900 @ 60Hz
  - 2211f / 2211x: 1920 x 1080 @ 60Hz
  - 2311cm / 2311f / 2311x/ 2311xi: 1920 x 1080 @ 60Hz
  - 2511x: 1920 x 1080 @ 60Hz
  - 2711x: 1920 x 1080 @ 60Hz
  - Plus full-screen support for lower resolutions (all models)
- Video graphics array (VGA) input signal
- Digital visual interface (DVI) digital input signal (select models)
- High-definition multimedia interface (HDMI) input signal (select models)
- Tilt and Slide adjustment for easy viewing from a sitting or standing position, or while moving from one side of the monitor to the other

- Dynamic contrast ratio (DCR) to provide deeper blacks and brighter whites for brilliant shading effects while gaming or watching movies
- External USB powered speakers with audio cable provided (select models)
- Plug and Play capability, if supported by your computer system
- On-screen display (OSD) adjustments for ease of setup and screen optimization (choose English, Simplified Chinese, Traditional Chinese, French, German, Italian, Spanish, Dutch, Japanese, or Brazilian Portuguese)
- Power Saver to reduce energy consumption
- Quick View Settings to optimize the picture based on the different types of content.
  - Text mode (optimizes e-mail and Web surfing)
  - Movie and Game modes (highlights the picture for motion video)
  - Photo mode (improves images)
  - Custom mode (allows you to create your own optimized profile)
- High-bandwidth digital content protection (HDCP) on DVI and HDMI (for select models with HDMI) inputs
- Software and utilities CD, containing the following:
  - Drivers
  - Documents

# 2 Safety and Maintenance Guidelines

## Important Safety Information

A power cord is included with the monitor. If another cord is used, be sure that the power source and connection are appropriate for this monitor. For information on the correct power cord set to use with the monitor, see Power Cord Set Requirements on page 33.

⚠ **WARNING!** To reduce the risk of electric shock or damage to the equipment:

Do not disable the power-cord grounding plug. The grounding plug is an important safety feature. Plug the power cord into a grounded (earthed) electrical outlet.

- Plug the power cord in a grounded (earthed) outlet that is easily accessible at all times.
- Disconnect power from the product by unplugging the power cord from the electrical outlet.

For your safety, do not place anything on power cords or cables. Arrange them so that no one might accidentally step on or trip over them. Do not pull on a cord or cable. When unplugging from the electrical outlet, grasp the cord by the plug.

To reduce the risk of serious injury, read the *Safety and Comfort Guide*. It describes proper workstation, setup, posture, and health and work habits for computer users, and provides important electrical and mechanical safety information. This guide is located on the Web at www.hp.com/ergo or on the documentation CD (if one is included with the monitor) or both.

⚠ **CAUTION:** For the protection of the monitor, as well as the computer, connect all power cords for the computer and its peripheral devices (such as a monitor, printer, scanner) to some form of surge protection device such as a power strip or uninterruptible power supply (UPS). Not all power strips provide surge protection; the power strips must be specifically labeled as having this ability. Use a power strip whose manufacturer offers a Damage Replacement Policy so you can replace the equipment, if surge protection fails.

Use the appropriate and correctly sized furniture designed to support your HP LCD monitor.

⚠ **WARNING!** LCD monitors that are inappropriately situated on dressers, bookcases, shelves, desks, speakers, chests, or carts might fall over and cause personal injury.

Care should be taken to route all cords and cables connected to the LCD monitor so that they cannot be pulled, grabbed, or tripped over.

## Safety Precautions

- Use only a power source and connection compatible with this monitor, as indicated on the label of the power adapter.
- Be sure that the total ampere rating of the products connected to the outlet does not exceed the current rating of the electrical outlet, and the total ampere rating of the products connected to the power cord does not exceed the rating of the power cord. Look on the power label to determine the ampere rating (Amps or A) for each device.

- Install the monitor near a power outlet that you can easily reach. Disconnect the monitor by grasping the plug firmly and pulling it from the outlet. Never disconnect the monitor by pulling the cord.
- Do not allow anything to rest on the power cord. Do not walk on the cord.

# Maintenance Guidelines

To enhance the performance and extend the life of the monitor:

- Do not open the monitor cabinet or attempt to service this product yourself. Adjust only those controls that are covered in the operating instructions. If the monitor is not operating properly or has been dropped or damaged, contact an authorized HP dealer, reseller, or service provider.
- Use only a power source and connection appropriate for this monitor, as indicated on the label of the power adapter.
- Be sure that the total ampere rating of the products connected to the outlet does not exceed the current rating of the electrical outlet, and the total ampere rating of the products connected to the cord does not exceed the rating of the power cord. Look on the power label to determine the ampere rating (AMP or A) for each device.
- Install the monitor near a power outlet that you can easily reach. Disconnect the monitor by grasping the plug firmly and pulling it from the outlet. Never disconnect the monitor by pulling the cord.
- Turn the monitor off when not in use. You can substantially increase the life expectancy of the monitor by using a screen saver program and turning off the monitor when not in use.

⚠ **CAUTION:** Monitors with a "burned-in image" are not covered under the HP warranty.

- Slots and openings in the cabinet are provided for ventilation. These openings must not be blocked or covered. Never push objects of any kind into cabinet slots or other openings.
- Do not drop the monitor or place it on an unstable surface.
- Do not allow anything to rest on the power cord. Do not walk on the cord.
- Keep the monitor in a well-ventilated area, away from excessive light, heat, or moisture.
- When removing the monitor base, you must lay the monitor face down on a soft area to prevent it from getting scratched, defaced, or broken.

## Cleaning the Monitor

**CAUTION:** Spray the cleaner on a cloth and use the damp cloth to gently wipe the screen surface. Never spray the cleaner directly on the screen surface. It might run behind the bezel and damage the electronics.

Do not use cleaners that contain any petroleum based materials such as benzene, thinner, or any volatile substance to clean the monitor screen or cabinet. These chemicals might damage the monitor.

1. Turn off the monitor and unplug the power cord from the back of the unit.
2. Dust the monitor by wiping the screen and the cabinet using a soft, clean antistatic cloth.
3. For more difficult cleaning situations, use a 50/50 mix of water and Isopropyl alcohol.

## Shipping the Monitor

Keep the original packing box in a storage area. You might need it later if you move or ship the monitor.

To prepare the monitor for shipping:

1. Disconnect the power and video cables from the monitor.
2. Press the button on the front of the pedestal (1) and lift the monitor panel from the base (2).

**Figure 2-1** Removing the Monitor Panel

3. Set the panel on a soft, protected surface.
4. Carefully pull the pedestal away from the base to release and separate them.

**NOTE:** **2511x and 2711x models only**: Remove one screw from the bottom of the base to release the pedestal from the base.

5. Place the monitor, pedestal, and base in the original packing box.

# 3 Setting Up the Monitor

## Unpacking the Monitor

1. Unpack the monitor. Make sure all contents are included. Store the packing box.
2. Turn off the computer and other attached devices.
3. Prepare a flat area to assemble the monitor. You may need a flat, soft, protected area for placing the monitor screen-down while preparing it for installation.

## Assembling the Monitor

Place the monitor in a convenient, well-ventilated location near your computer. Connect the monitor cables after you have assembled the monitor.

**CAUTION:** The screen is fragile. Avoid touching or applying pressure to the LCD screen; doing so can cause damage.

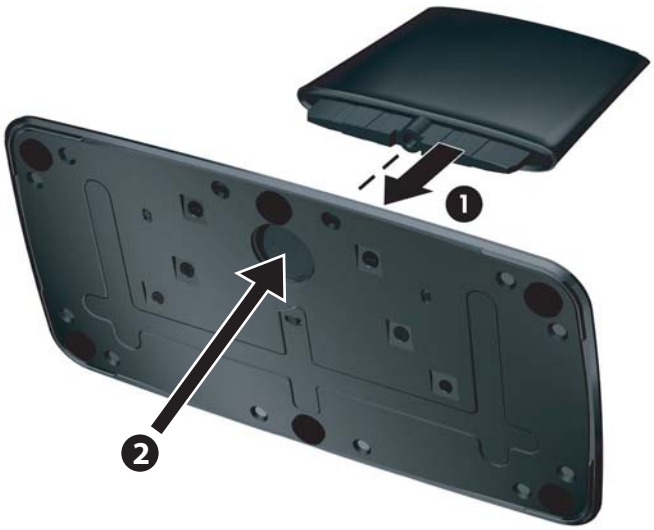
**TIP:** For monitor displays with glossy bezels, consider the placement of the display, because the bezel might cause interfering reflections from surrounding light and bright surfaces.

1. Set the monitor panel down on a flat, soft, protected table or desk surface.
2. Slide the pedestal into the slot on the base (1) until the pedestal clicks into the base.

**NOTE:** The bottom side of the monitor base might look different on your model.

**2511x and 2711x models only**: Install one screw (2) in the base to secure the pedestal to the base.

**Figure 3-1** Assembling the Base and Pedestal



3. Slide the hinge bracket on the monitor into the opening on top of the pedestal. The panel will click into place when fully inserted.

**Figure 3-2** Inserting the Monitor Panel

# Connecting Monitor Cables

**CAUTION:** Before connecting cables to the monitor, ensure that the computer and monitor are powered off.

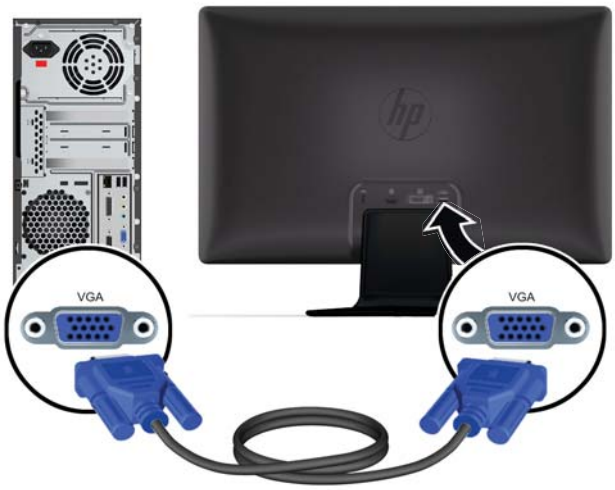
**NOTE:** When using a DVI, VGA, or HDMI signal, you must connect your audio output to external speakers.

The video source is determined by the video cable used. The monitor will automatically determine which inputs have valid video signals. The inputs can be selected by pressing the source button on the front panel.

## Connecting the VGA Video Cable

Connect one end of the VGA video cable to the back of the monitor and the other end to the VGA video connector on the computer. The VGA cable is included with select models.

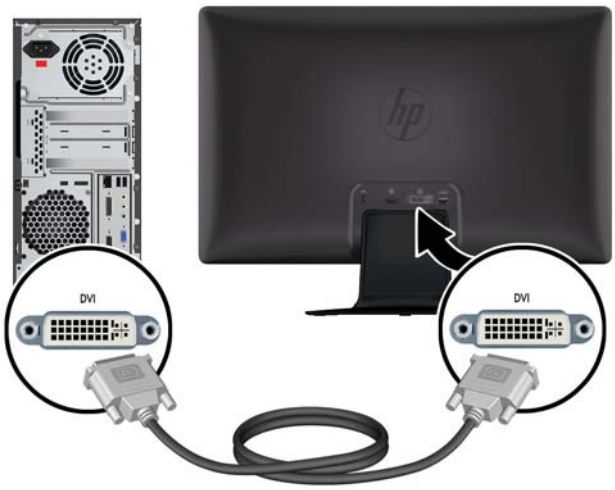
**Figure 3-3** Connecting the VGA Cable (cable provided with select models only)



## Connecting the DVI-D Video Cable (Select Models)

Connect one end of the DVI-D video cable to the back of the monitor and the other end to the DVI-D video connector on the computer. You can use this cable only if your computer has a DVI compliant graphics card that is either integrated or installed. The DVI-D connector and cable are included with select models.

**Figure 3-4** Connecting the DVI-D Cable (cable provided with select models only)

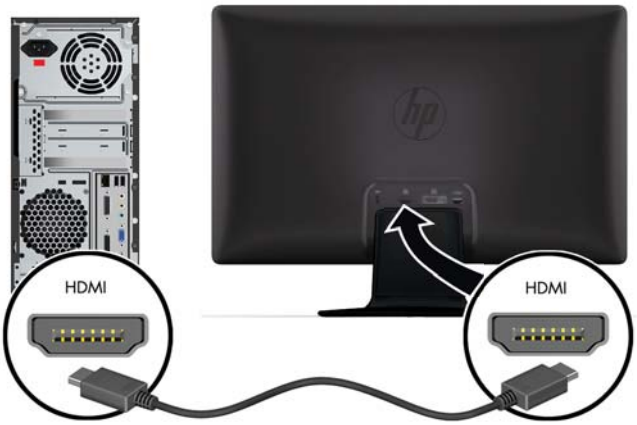


## Connecting the HDMI Cable (Select Models)

Connect one end of the HDMI cable to the back of the monitor and the other end connector to the input device. The HDMI cable is included with select models.

**NOTE:** The audio stream must be connected directly to external speakers or to an audio receiver.

**Figure 3-5** Connecting the HDMI Cable (cable provided with select models only)




## Getting HDMI Sound

If you use HDMI to connect to a monitor model without speakers, you must activate HDMI sound by adjusting the setting in Microsoft Windows. If HDMI is not activated, you can not hear any sound. To activate HDMI sound on your computer:

1. Right-click on the volume icon in the Windows system tray.
2. Click **Playback Devices**. The sound window opens.
3. On the Playback tab, click the HDMI output audio device that is listed.
4. Click **Set Default**.
5. Click **Apply**.
6. Click **OK** to close the window.

## Connecting the Power Cord

1. Follow all electrical and power warnings

**WARNING!** To reduce the risk of electric shock or damage to your equipment:

Do not disable the power-cord grounding plug. The grounding plug is an important safety feature. Plug the power cord into a grounded (earthed) electrical outlet.

Be sure that the grounded power outlet you plug the power cord into is easily accessible to the operator and located as close to the equipment as possible. A power cord should be routed so that it is not likely to be walked on or pinched by items that are placed on it or against it.

Do not place anything on power cords or cables. Arrange them so that no one might accidentally step on or trip over them. Do not pull on a cord or cable.

See Technical Specifications on page 27 for additional information.

2. Connect the round end of the power supply cord to the monitor, and then connect one end of the power cord to the power supply and the other end to a grounded electrical outlet.

**WARNING!** To prevent injury from electrical shock, you should do one of the following if a properly grounded electrical outlet is not available: (1) You should use an electrical outlet adapter that provides proper grounding. (2) You should have a properly grounded electrical outlet installed.

**Figure 3-6** Connecting the Power Cord

## Installing the Cable Management Clip

Install the cable management clip over the input cable and power cord to gather them together behind the monitor.

**Figure 3-7** Installing the Cable management Clip

# High-Bandwidth Digital Content Protection (HDCP) select models

Your monitor supports HDCP and can receive high-definition content. High-definition content is available in many sources, such as Blu-ray disc devices or HDTV air or cable broadcasts. If you do not have an HDCP-enabled monitor, you will see a blank screen or a lower resolution picture when playing high-definition protected content. Your computer graphics card and monitor must both support HDCP to display protected content.

# Turning on the Monitor

1. Press the power button on the computer to turn it on.
2. Press the power button on the front of the monitor to turn it on.

⚠ **CAUTION:** Burn-in image damage might occur on monitors that display the same static image on screen for a prolonged period of time.* To avoid burn-in image damage on the monitor screen, you should always activate a screen saver application or turn off the monitor when it is not in use for a prolonged period of time. Image retention is a condition that might occur on all LCD screens. Monitors with a "burned-in image" are not covered under HP warranty.

* A prolonged period of time is 12 consecutive hours of non-use.

When the monitor is powered on, a Monitor Status message is displayed for five seconds and the power source LED on the rear of the monitor is green. The message shows which input is the current active signal, the status of the auto-switch source setting (On or Off), the default source signal, the current preset display resolution, and the recommended preset display resolution.

# HP Watermark and Image Retention Policy

The HP 2011xi IPS and HP 2311xi IPS monitor models are designed with IPS (In-Plane Switching) display technology which provides ultra-wide viewing angles and advanced image quality. IPS monitors are suitable for a wide variety of advanced image quality applications. This panel technology, however, is not suitable for applications that exhibit static, stationary or fixed images for long periods of time without the use of screen savers. These types of applications may include camera surveillance, video games, marketing logos, and templates that are displayed on the screen for a prolonged period of time. Static images may cause image retention damage that could look like stains or watermarks on the monitor's screen.

Monitors in use for 24 hours per day that result in image retention damage are not covered under the HP warranty. To avoid image retention damage, always turn off the monitor when it is not in use or use the power management setting, if supported on your system, to turn off the display when the system is idle.

# Selecting Video Input Connectors

The input connectors are:

- VGA (analog)
- DVI-D connector (digital) select models
- HDMI connector (digital) select models

The monitor automatically scans the signal inputs for an active input and uses that input for the display. If two inputs are active, the monitor will display the default input source. If the default source is not an active input, then the monitor will display the other input if it is active. You can change the default source in the OSD by pressing the front-panel Menu button and selecting **Source Control** > **Default Source**.

# Adjusting The Tilt

For optimal viewing, adjust the screen tilt to your own preference, as follows:

**CAUTION:** To avoid breakage or other damage, avoid applying pressure to the LCD screen while changing the tilt.

1. Face the front of the monitor and hold the base so that you do not topple the monitor while changing the tilt.
2. Adjust the tilt by moving the top edge of the monitor either toward or away from you, without touching the screen.

**Figure 3-8** Tilt Adjustment

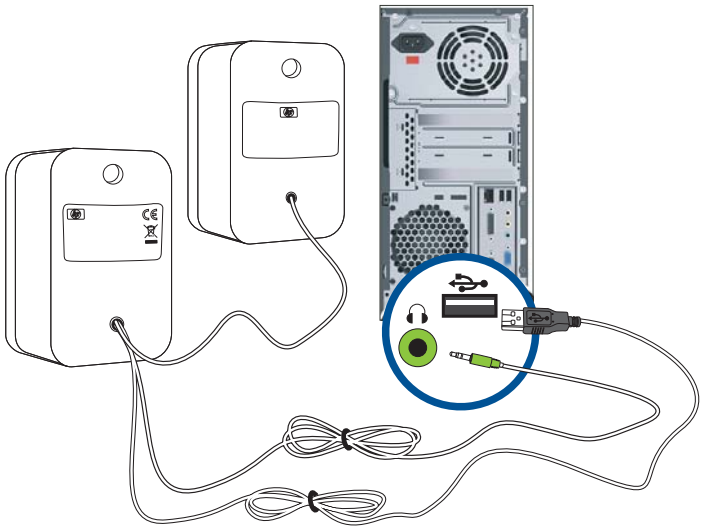
# Connecting External Speakers and Audio Cable (Select Models)

Use the following procedure to connect the external speakers to a computer.

1. Turn the computer on.
2. Connect the audio cable to the audio-speaker connector on the computer, and then connect the USB power cable to a USB connector on the computer.

**NOTE:** Use the volume controls on the computer to adjust the speaker volume.

**Figure 3-9** Connect the External Speaker Audio and USB Cables



**NOTE:** If you use HDMI to connect to the monitor, you must activate HDMI sound by adjusting the setting in Microsoft Windows. Refer to instructions in the previous section, Connecting the HDMI Cable (Select Models) on page 10 in this chapter.

# 4 Operating the Monitor

## CD Software and Utilities

The CD that is included with this monitor contains drivers and software that you can install on your computer.

### Installing Drivers

If you determine that you need to update the drivers, you can install the monitor driver INF and ICM files from the CD, or download them from the Internet.

#### Installing the monitor driver software from the CD

To install the monitor driver software from the CD:

1. Insert the CD in your computer CD drive. The CD menu appears.
2. Select the language.
3. Click **Install Monitor Driver Software**.
4. Follow the on-screen instructions.
5. Ensure that the proper resolutions and refresh rates appear in the Display Control Panel settings. Refer to the Windows® operating system documentation for more information.

**NOTE:** You might need to manually install the digitally signed monitor drivers (INF or ICM files) from the CD, in case of an installation error. Refer to the "Driver Software Readme" file on the CD for instructions (in English only).

#### Downloading updated drivers from the Internet

To download the latest version of drivers and software files from the HP Support site:

1. Refer to: www.hp.com/support.
2. Select your country/region.
3. Select **Download Drivers and Software**.
4. Enter the model number of your monitor. The software download pages for your monitor are displayed.
5. Download and install the driver and software files by following the instructions on the download pages.

**NOTE:** Ensure that your system meets the requirements.

# Front-Panel Controls

Control buttons (represented by icons) are located on the bottom right of the monitor.

| Button | Icon | Description |
|---|---|---|
| Quick View | | Opens the OSD Quick View menu where you can select a viewing mode which compliments or optimizes the content you are viewing. |
| Minus | – | Navigates down through the OSD menu and decreases adjustment levels. |
| Source | | Chooses the video input source from the computer. Not supported on the 2011s model. |
| Plus | + | Navigates up through the OSD menu and increases adjustment levels. |
| Auto Adjustment | | Press to automatically adjust the screen image.<br>**NOTE:** This item can only be used with a VGA input signal. |
| OK | OK | Enters the selected option in the OSD. |
| Menu | | Opens, selects, or exits the OSD menu.<br>**NOTE:** Pressing the Menu button for 10 seconds will disable operation of the remaining OSD buttons. Pressing it again for 10 seconds will re-enable functionality. |
| Power | | Turns the monitor on or off. The Power button is located on the bottom-right of the monitor.<br>**NOTE:** Pressing the Power button for 10 seconds will disable operation of the Power button. Pressing it again for 10 seconds will re-enable functionality. |

# Using the On-Screen Display (OSD)

Use the On-Screen Display (OSD) to adjust the screen image based on your viewing preferences. To access the OSD, do the following:

**NOTE:** The OSD is only available if there is at least one active video input selected for viewing on the monitor.

1. If the monitor is not already on, press the Power button to turn on the monitor.
2. To access the OSD menu, press the Menu button. The OSD Main Menu is displayed.
3. To navigate through the Main or sub-menu, press the **+** (Plus) button on the front panel of the monitor to scroll up, or the **–** (Minus) button to scroll in reverse. Then press the OK button to select the highlighted function.
4. To adjust the scale of a selected item, press the **+** (Plus) or **–** (Minus) button.

5. Select **Save and Return**. If you do not want to save the setting, select **Cancel** from the sub-menu or **Exit** from the Main Menu.
6. Press the Menu button to exit the OSD.

**NOTE:** When a menu is displayed, if the buttons are untouched for 30 seconds (factory default), adjustments and settings are saved and the menu closes.

### OSD Menu Selections

The following table lists the on-screen display (OSD) menu selections and their functional descriptions. After changing an OSD menu item, and if the menu screen has these options, you might choose to:

- **Cancel** — to return to the previous menu level.
- **Save and Return** — to save all changes and return to the OSD Main Menu screen. This Save and Return option is active only if you change a menu item.
- **Reset** — to change back to the previous setting.

| Icon | Main Menu Options | Sub-menu Options | Description |
|---|---|---|---|
| | Brightness | | Adjusts the brightness level of the screen. |
| | Contrast | | Adjusts the contrast level of the screen. |
| | Color | | Selects the screen color. The factory default is 6500 K. |
| | | Warm (5000 K) | Changes to slightly reddish white. |
| | | Standard (6500 K) | Sets your screen colors to adapt to the color standards used in the image technology industry. |
| | | Cool (9300 K) | Changes to slightly blueish white. |
| | | Custom (RGB) | Selects and adjusts your own color scales:<br>• Red Color — Sets your own red color levels.<br>• Green Color — Sets your own green color levels.<br>• Blue Color — Sets your own blue color levels. |
| | | Quick View | Select from the following modes:<br>• Movie<br>• Photo<br>• Gaming<br>• Text<br>• Custom (settings saved when you adjust the Brightness, Contrast, or Color in one of the other Quick View options) |

| Icon | Main Menu Options | Sub-menu Options | Description |
|---|---|---|---|
| | Image Control | | Adjusts the screen image. |
| | | Auto-Adjustment | Automatically adjust the screen image.<br>**NOTE:** This item can only be used with a VGA input signal. |
| | | Clock | Minimizes any vertical bars or strips visible on the screen background. Adjusting the Clock also changes the horizontal screen image (VGA input only). |
| | | Clock Phase | Adjusts the focus of the display. This adjustment allows you to remove horizontal noise, and clear or sharpen the image of characters (VGA input only). |
| | | Horizontal Position | Adjusts the position of the screen image left and right. |
| | | Vertical Position | Adjusts the position of the screen image up and down. |
| | | Custom Scaling | Selects the method for formatting information displayed on the monitor. Select:<br>• Fill to Screen — image fills the entire screen and might look distorted or elongated because of non-proportional scaling of height and width.<br>• Fill to Aspect Ratio — image is sized to fit the screen and maintains proportional image. |
| | | Sharpness | Adjusts the screen image to look sharper or softer. |
| OD | | OverDrive (select models) | Turns OverDrive on or off. The factory default is Off. |
| DCR | | Dynamic Contrast Ratio | Sets the DCR setting on or off. The factory default setting is off. DCR automatically adjusts the balance between white and black levels to provide you with an optimal image. |
| | OSD Control | | Adjusts the position of the OSD menu on the screen. |
| | | Horizontal OSD Position | Changes the viewing position of the OSD menu to the left or right area of the screen. |

| Icon | Main Menu Options | Sub-menu Options | Description |
|---|---|---|---|
| | | Vertical OSD Position | Changes the viewing position of the OSD menu to the top or bottom area of the screen. |
| | | OSD Transparency | Adjust to view the background information through the OSD. |
| | | OSD Timeout | Sets the time in seconds that the OSD is visible after the last button is pressed. The factory default is 30 seconds. |
| | Management | | Selects the power-management features of the monitor. |
| | | Power Saver | Enables the power saving feature (see Power-Saver Feature on page 23). Select:<br>• On<br>• Off<br>The factory default is On. |
| | | Power-On Recall | Restores power to the monitor following an unexpected removal of power. Select:<br>• On<br>• Off<br>The factory default is On. |
| | | Mode Display | Displays the resolution, refresh rate, and frequency information on the screen each time the OSD Main Menu is accessed. Select:<br>• On<br>• Off<br>The factory default is On. |
| | | Monitor Status | Displays the operating status of the monitor each time the monitor is powered on. Select the location at which to display the status:<br>• Top<br>• Middle<br>• Bottom<br>• Off<br>The factory default is Top. |

| Icon | Main Menu Options | Sub-menu Options | Description |
|---|---|---|---|
| DDC | | DDC/CI Support | Allows the computer to control some OSD menu features such as Brightness, Contrast, and Color Temperature. Select:<br>• On<br>• Off<br>The factory default is On. |
| LED | | Bezel Power LED | Turns the light (LED) in the Power button on and off. When set to off, the light will remain off at all times. |
| | | Sleep Timer | Provides the timer-adjustment menu options:<br>• Set Current Time — Sets the current time in hours and minutes.<br>• Set Sleep Time — Sets the time you want to place the monitor in sleep mode.<br>• Set On Time — Sets the time you want the monitor to wake up from sleep mode.<br>• Timer — Sets the Sleep Timer feature on or off; the default setting is Off.<br>• Sleep Now — Immediately sets the monitor to enter sleep mode. |
| | Language | | Selects the language in which the OSD menu is displayed. The factory default is English. |
| i+ | Information | | Selects and displays important information about the monitor. |
| | | Current Settings | Provides the current input video mode. |
| | | Recommended Settings | Provides the recommended resolution mode and refresh rate for the monitor. |
| | | Serial Number | Reports the serial number of the monitor. The serial number is needed if contacting HP technical support. |
| | | FW Version | Reports the firmware version of the monitor. |
| | | Backlight Hours | Reports the total hours of backlight operation. |
| | | Service Support | For service support, go to: www.hp.com/support. |
| | Factory Reset | | Returns settings to factory defaults. |

| Icon | Main Menu Options | Sub-menu Options | Description |
|---|---|---|---|
| | Source Control | | Selects the video input signal. The factory default by priority is DVI, VGA, and then HDMI. |
| | | DVI (select models) | Selects DVI as the video input signal. |
| | | HDMI (select models) | Selects HDMI as the video input signal. |
| | | VGA | Selects VGA as the video input signal. |
| | | Default Source | Selects the default or primary video input signal when the monitor is connected to two active and valid video sources. The monitor will automatically determine the video format. |
| | | Auto-Switch Source | Turns the automatic video signal input to On or Off on the system. The factory default is On. |
| | Exit | | Exits the OSD menu screen. |

# Identifying Monitor Conditions

Special messages appear on the monitor screen for the following monitor conditions:

- **Monitor Status** — When the monitor is powered on or when the input source signal is changed, a Monitor Status message is displayed for five seconds. The message shows which input is the current active signal, the status of the auto-switch source setting (On or Off), the default source signal, the current preset display resolution, and the recommended preset display resolution.
- **Input Signal Out of Range** — Indicates the monitor does not support the input signal on the video card, because its resolution or refresh rate is set higher than the monitor supports.

  Change your video card settings to a lower resolution or refresh rate. Restart your computer for the new settings to take effect.
- **Power Button Lockout** — Indicates the power button is locked. If the power button is locked, the warning message **Power Button Lockout** appears.
  - If the power button is locked, press and hold the power button for 10 seconds to unlock the power button function.
  - If the power button is unlocked, press and hold the power button for 10 seconds to lock out the power button function.
- **Monitor Going to Sleep** — Indicates the screen display is entering a sleep mode.
- **Check Video Cable** — Indicates a video input cable is not properly connected to the computer or monitor.

- **OSD Lockout** — The OSD can be enabled or disabled by pressing and holding the Menu button on the front panel for 10 seconds. If the OSD is locked, the warning message OSD Lockout appears for 10 seconds.
  - If the OSD is locked, press and hold the Menu button for 10 seconds to unlock the OSD.
  - If the OSD is unlocked, press and hold the Menu button for 10 seconds to lock the OSD.
- **Dynamic Contrast Ratio ON** — Indicates that DCR is turned on.
- **Dynamic Contrast Ratio OFF** — Indicates that DCR has been turned off in the OSD or was automatically turned off after changes were made to Brightness or Quick View in the OSD.
- **No Input Signal** — Indicates the monitor is not receiving a video signal from the computer on the monitor video input connector. Check to see if the computer or input signal source is off or in the power-saver mode.

# Power-Saver Feature

When the monitor is in normal operating mode, the Power light is Aqua white and the monitor uses the normal watts of power. For power usage, refer to Technical Specifications on page 27.

The monitor also supports a power-saver mode that is controlled by the computer. When the monitor is in the reduced-power state, the monitor screen is blank, the backlight is off, the Power light is amber, and the monitor uses minimum power. When the monitor is "awakened," a brief warm-up period occurs before the monitor returns to normal operating mode. The energy-saving reduced power state activates if the monitor does not detect either the horizontal sync signal or the vertical sync signal. The power-saver feature must be activated on your computer for this feature to work.

Refer to your computer documentation for instructions on setting energy-saver features (sometimes called power-management features).

**NOTE:** The energy-saver feature works only when the monitor is connected to computers that have energy-saver features.

# A Troubleshooting

## Solving Common Problems

The following table lists possible problems, the possible cause of each problem, and the recommended solutions:

| Problem | Solution |
|---|---|
| Power button LED is not on. | Make sure that the Power button is on, and the power cord is connected to a grounded power outlet and to the monitor.<br><br>Select **Management** in the OSD menu, and then select **Bezel Power LED**. Check if the Bezel Power LED option is set to Off and, if so, set to **On** mode. |
| Power source LED is not on. The power source LED is on the rear of the monitor next to the power plug connector. | The monitor is not receiving power. Contact your authorized HP service provider to replace the power adaptor. |
| Screen is blank. | Connect the power cord. Turn on the power.<br><br>Connect the video cable properly. See Setting Up the Monitor on page 6 for more information.<br><br>Press a key on the keyboard or move the mouse to turn off the screen-blanking utility. |
| Image appears blurred, indistinct, or too dark. | Press the Menu button to open the OSD menu, and adjust the brightness and contrast scales. |
| Check Video Cable appears on screen. | Connect the appropriate video cable (VGA, DVI, or HDMI) between the computer and monitor. Be sure that the computer power is off while connecting the video cable.<br><br>**NOTE:** HDMI input is available for select models only. |
| Input Signal Out of Range appears on screen. | Restart your computer and enter Safe Mode. Change your settings to a supported setting (see the table in Preset Video Modes on page 28). Restart your computer so that the new settings take effect. |
| Picture is fuzzy and has ghosting, shadowing problem. | Adjust the contrast and brightness controls.<br><br>Make sure that you are not using an extension cable or switch box. HP recommends plugging the monitor directly into the graphic card output connector on the back of your computer. |
| Unable to set the monitor to the optimal resolution. | Make sure that the graphics card supports the optimal resolution.<br><br>Make sure that the latest supported driver is installed for the graphics card. For HP and Compaq systems, you can download the latest graphics driver for your system from: www.hp.com/support. For other systems, refer to the Web site for your graphics card. |
| Screen is black or displaying at a lower resolution while displaying high-definition (HD) content. | Check if your monitor and computer support HDCP. Refer to High-Bandwidth Digital Content Protection (HDCP) select models on page 12 or www.hp.com/support. |

| Problem | Solution |
| --- | --- |
| No Audio. | Make sure that the speaker audio cable and USB power cable are connected directly to the computer.<br><br>**NOTE:** External speakers are available for select models only. |
| No Plug and Play. | In order for the Plug and Play feature of the monitor to work, you need a computer and graphic card that are compatible with Plug and Play. Check with your computer manufacturer.<br><br>Check the video cable on the monitor, and make sure that none of the pins are bent.<br><br>Make sure that the monitor drivers are installed. Refer to Installing Drivers on page 16 for more information. Monitor drivers are also available at: www.hp.com/support. |
| Picture bounces, flickers, or wave pattern is present in the picture. | Move electrical devices that might cause electrical interference as far away from the monitor as possible.<br><br>Use the maximum refresh rate that your monitor is capable of at the resolution that you are using. |
| Using HDMI connection, unable to hear audio. | The audio stream must be connected directly to external speakers or to an audio receiver. |
| Monitor is always in sleep mode (amber LED). | Power to the computer should be turned on.<br><br>The computer graphic card should be snugly seated in its slot.<br><br>Check that the monitor video cable is properly connected to the computer.<br><br>Inspect the monitor video cable, and make sure that none of the pins are bent.<br><br>Check that your computer is operational: Press the Caps Lock key and observe the Caps Lock LED found on most keyboards. The LED should either turn on or off after hitting the Caps Lock key. |

# Getting Support from hp.com

Before you contact customer service, refer to HP Technical Support at: www.hp.com/support. Select your country/region, and then follow the links to the support page for your monitor.

# Preparing to Call Technical Support

If you cannot solve a problem by using the troubleshooting tips in this section, you might have to call technical support. For technical support contact information, refer to the printed documentation included with the monitor.

**Have the following information available when you call:**

- Monitor model number (located on label on back of monitor)
- Monitor serial number (located on label on back of monitor or in the OSD display in the Information menu)
- Purchase date on invoice
- Conditions under which the problem occurred
- Error messages received
- Hardware configuration
- Name and version of hardware and software you are using

# Locating the Rating Label

The rating label on the monitor provides the product number and serial number. You might need these numbers when contacting HP about your monitor model.

The rating label is on the back of the monitor.

# B Technical Specifications

All specifications represent the typical specifications provided by HP component manufacturers; performance might vary either higher or lower.

## HP LCD Monitors

**Table B-1 2011x/2011s/2011xi Specifications**

| Specifications | |
|---|---|
| Video Input Terminals: | VGA and/or DVI |
| Maximum Weight (unpacked): | 3.4 kg (7.5 lb) |
| Dimensions (w x d x h): | 486.8 x 158.9 x 378.7 mm (19.16 x 6.26 x 14.91 in) |
| Maximum Graphics Resolution: | 1600 x 900 @ 60 Hz |
| Optimum Graphics Resolution: | 1600 x 900 @ 60 Hz |
| Power Source (adapter): | 100-240 VAC (ca) |
| Power Source (monitor): | 12V dc |

**Table B-2 2211f/2211x Specifications**

| Specifications | |
|---|---|
| Video Input Terminals: | VGA, DVI, and HDMI<br>**NOTE:** HDMI Terminal for the 2211f only |
| Maximum Weight (unpacked): | 3.5 kg (7.7 lb) |
| Dimensions (w x d x h): | 519.53 x 159 x 396.3 mm (20.45 x 6.26 x 15.60 in) |
| Maximum Graphics Resolution: | 1920 x 1080 @ 60 Hz |
| Optimum Graphics Resolution: | 1920 x 1080 @ 60 Hz |
| Power Source (adapter): | 100-240 VAC (ca), 50/60 Hz |
| Power Source (monitor): | 12V dc, 50/60 Hz |

**Table B-3 2311cm/2311f/2311x/2311xi Specifications**

| Specifications | |
|---|---|
| Video Input Terminals: | VGA, DVI, and HDMI |
| Maximum Weight (unpacked): | 4.3 kg (9.5 lb) |

**Table B-3 2311cm/2311f/2311x/2311xi Specifications (continued)**

| Specifications | |
|---|---|
| Dimensions (w x d x h): | 557.95 x 159.0 x 416.48 mm (21.97 x 6.26 x 16.40 in) |
| Maximum Graphics Resolution: | 1920 x 1080 @ 60 Hz |
| Optimum Graphics Resolution: | 1920 x 1080 @ 60 Hz |
| Power Source (adapter): | 100-240 VAC (ca), 50/60 Hz |
| Power Source (monitor): | 12V dc, 50/60 Hz |

**Table B-4 2511x Specifications**

| Specifications | |
|---|---|
| Video Input Terminals: | VGA, DVI, and HDMI |
| Maximum Weight (unpacked): | 5.13 kg (11.3 lb) |
| Dimensions (w x d x h): | 604.95 x 184.44 x 442.2 mm (23.82 x 7.26 x 175.41 in) |
| Maximum Graphics Resolution: | 1920 x 1080 @ 60 Hz |
| Optimum Graphics Resolution: | 1920 x 1080 @ 60 Hz |
| Power Source (adapter): | 100-240 VAC (ca), 50/60 Hz |
| Power Source (monitor): | 12V dc, 50/60 Hz |

**Table B-5 2711x Specifications**

| Specifications | |
|---|---|
| Video Input Terminals: | VGA, DVI, and HDMI |
| Maximum Weight (unpacked): | 5.85 kg (12.9 lb) |
| Dimensions (w x d x h): | 470.93 x 184.44 x 653.95 mm (18.54 x 7.26 x 25.75 in) |
| Maximum Graphics Resolution: | 1920 x 1080 @ 60 Hz |
| Optimum Graphics Resolution: | 1920 x 1080 @ 60 Hz |
| Power Source (adapter): | 100-240 VAC (ca), 50/60 Hz |
| Power Source (monitor): | 12V dc, 50/60 Hz |

# Preset Video Modes

The monitor automatically recognizes many preset video input modes that will appear properly sized and centered on the screen.

**Table B-6 2011x/2011s/2011xi Factory Preset Video Input Modes**

| Preset | Resolution | Horizontal Frequency (kHz) | Vertical Frequency (Hz) |
|---|---|---|---|
| 1 | 640 x 480 | 31.469 | 59.94 |
| 2 | 720 x 400 | 31.469 | 70.087 |
| 3 | 800 x 600 | 37.879 | 60.317 |
| 4 | 1024 x 768 | 48.363 | 60.004 |
| 5 | 1280 x 720 | 45.00 | 60.00 |
| 6 | 1280 x 1024 | 63.98 | 60.02 |
| 7 | 1440 x 900 | 55.94 | 59.89 |
| 8 | 1600 x 900 | 60.00 | 60.00 |

**Table B-7 2211f/2211x/2311cm/2311f/2311x/2311xi/2511x and 2711x Factory Preset Video Input Modes**

| Preset | Resolution | Horizontal Frequency (kHz) | Vertical Frequency (Hz) |
|---|---|---|---|
| 1 | 640 x 480 | 31.469 | 59.94 |
| 2 | 720 x 400 | 31.469 | 70.087 |
| 3 | 800 x 600 | 37.879 | 60.317 |
| 4 | 1024 x 768 | 48.363 | 60.004 |
| 5 | 1280 x 720 | 45.00 | 60.00 |
| 6 | 1280 x 1024 | 63.98 | 60.02 |
| 7 | 1440 x 900 | 55.94 | 59.89 |
| 8 | 1680 x 1050 | 65.29 | 60.00 |
| 9 | 1920 x 1080 | 67.50 | 60.00 |

**Table B-8 HDMI High Definition Factory Preset Video Modes (Select Models)**

| Preset | HD Video Display Resolution | Resolution | Horizontal Frequency (kHz) | Vertical Frequency (Hz) |
|---|---|---|---|---|
| 1 | 480p | 720 x 480 | 31.469 | 60 |
| 2 | 720p60 | 1280 x 720 | 45 | 60 |
| 3 | 576p | 720 x 576 | 31.25 | 50 |
| 4 | 720p50 | 1280 x 720 | 37.5 | 50 |
| 5 | 1080p60 | 1920 x 1080 | 67.5 | 60 |
| 6 | 1080p50 | 1920 x 1080 | 56.25 | 50 |

# Entering User Modes

The video controller signal might occasionally call for a mode that is not preset if:

- You are not using a standard graphics adapter.
- You are not using a factory preset mode.

It this occurs, you might need to readjust the parameters of the monitor screen by using the on-screen display. Your changes can be made to any or all of these factory preset modes and saved in memory. The monitor automatically stores the new setting, then recognizes the new mode just like it does a factory preset mode. Also there are at least ten user modes that can be entered and stored.

# Power Adapters

**Table B-9 Power Adapters**

| Manufacturer | Model Number |
|---|---|
| TPV Technology Group | ADCP1236 |
| LiteOn | PA-1041-03TA-LF, PA-1041–0 |
| APD, Asian Power Devices, Inc. | DA-36N12, DA-50F19 |
| Delta | ADP-40DD B Series |

# LCD Monitor Quality and Pixel Policy

Your LCD monitor uses high-precision technology, manufactured according to high standards, to help guarantee trouble-free performance. Nevertheless, the display might have cosmetic imperfections that appear as small bright or dark spots. This is common to all LCD monitor displays used in products supplied by all vendors and is not specific to your LCD monitor. These imperfections are caused by one or more defective pixels or subpixels.

A pixel consists of one red, one green, and one blue subpixel. A defective whole pixel is always turned on (a bright spot on a dark background), or it is always off (a dark spot on a bright background). The first is the more visible of the two. A defective subpixel (dot defect) is less visible than a defective whole pixel, and is small and only visible on a specific background.

To locate defective pixels, the monitor should be viewed under normal operating conditions and in normal operating mode at a supported resolution and refresh rate, from a distance of approximately 50 cm (16 in). We expect that, over time, the industry will continue to improve its ability to produce displays with fewer cosmetic imperfections, and we will adjust guidelines as improvements are made.

For more information about your LCD monitor and pixel policy, refer to the HP Web site at: www.hp.com/support. To find pixel policy information on the HP Web site, type in "HP Pixel Policy" in the search box and press Enter.

# C Agency Regulatory Notices

## Federal Communications Commission Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

### Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Hewlett Packard Company may void the user's authority to operate the equipment.

### Cables

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods to maintain compliance with FCC Rules and Regulations.

## Declaration of Conformity for Products Marked with the FCC Logo (United States Only)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

For questions regarding the product, contact:

Hewlett Packard Company

P. O. Box 692000, Mail Stop 530113

Houston, Texas 77269-2000

Or, call 1-800-HP-INVENT (1-800 474-6836)

For questions regarding this FCC declaration, contact:

Hewlett Packard Company

P. O. Box 692000, Mail Stop 510101

Houston, Texas 77269-2000

Or, call (281) 514-3333

To identify this product, refer to the Part, Series, or Model number found on the product.

# Canadian Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

# Avis Canadien

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

# European Union Regulatory Notice

Products bearing the CE marking comply with the following EU Directives:

- Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- Ecodesign Directive 2009/125/EC, where applicable

CE compliance of this product is valid if powered with the correct CE-marked AC adapter provided by HP.

Compliance with these directives implies conformity to applicable harmonized European standards (European Norms) that are listed in the EU Declaration of Conformity issued by HP for this product or product family and available (in English only) either within the product documentation or at the following Web site: http://www.hp.eu/certificates (type the product number in the search field).

The compliance is indicated by one of the following conformity markings placed on the product:

| | |
|---|---|
| CE | For non-telecommunications products and for EU harmonized telecommunications products, such as Bluetooth® within power class below 10mW. |
| CE ! | For EU non-harmonized telecommunications products (If applicable, a 4-digit notified body number is inserted between CE and !). |

Please refer to the regulatory label provided on the product.

The point of contact for regulatory matters is: Hewlett-Packard GmbH, Dept./MS: HQ-TRE, Herrenberger Strasse 140, 71034 Boeblingen, GERMANY.

# German Ergonomics Notice

HP products which bear the "GS" approval mark, when forming part of a system comprising HP brand computers, keyboards and monitors that bear the "GS" approval mark, meet the applicable ergonomic requirements. The installation guides included with the products provide configuration information.

# Japanese Notice

この装置は、クラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。取扱説明書に従って正しい取り扱いをして下さい。

VCCI-B

# Korean Notice

| | |
|---|---|
| B급 기기<br>(가정용 방송통신기기) | 이 기기는 가정용(B급)으로 전자파적합등록을 한 기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다. |

# Power Cord Set Requirements

The monitor power supply is provided with Automatic Line Switching (ALS). This feature allows the monitor to operate on input voltages between 100-120V or 200-240V.

The power cord set (flexible cord or wall plug) received with the monitor meets the requirements for use in the country where you purchased the equipment.

If you need to obtain a power cord for a different country, you should purchase a power cord that is approved for use in that country.

The power cord must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product. In addition, the cross-sectional area of the wire must be a minimum of 0.75 $mm^2$ or 18 AWG, and the length of the cord must be between 6 feet (1.8 m) and 12 feet (3.6 m). If you have questions about the type of power cord to use, contact an authorized HP service provider.

A power cord should be routed so that it is not likely to be walked on or pinched by items placed upon it or against it. Particular attention should be paid to the plug, electrical outlet, and the point where the cord exits from the product.

## Japanese Power Cord Requirements

For use in Japan, use only the power cord received with this product.

⚠ **CAUTION:** Do not use the power cord received with this product on any other products.

# Product Environmental Notices

## ENERGY STAR® Qualification

HP Displays marked with the ENERGY STAR® certification mark meet the requirements of the U.S. Environmental Protection Agency (EPA) ENERGY STAR program. The EPA ENERGY STAR® certification mark does not imply endorsement by the EPA. As an ENERGY STAR Partner, Hewlett Packard Company has determined that this product meets the ENERGY STAR® program requirements for display energy efficiency.

The following ENERGY STAR® certification mark appears on all ENERGY STAR qualified displays:

The ENERGY STAR® program specifications for displays and computers were created by the EPA to promote energy efficiency and reduce air pollution through more energy-efficient equipment in homes, offices, and factories. One way products achieve this goal is by using the Microsoft® Windows power management feature to reduce power consumption when the product is not in use.

The power management feature enables the computer to initiate a low-power or "sleep" mode after a period of user inactivity. When used with an external ENERGY STAR® qualified display, this feature also supports similar power management features for the display. To take advantage of these potential energy savings, users should use the default power management settings that are provided with ENERGY STAR qualified computers and displays. The default power management settings on ENERGY STAR qualified computers are preset to behave in the following ways when the system is operating on AC power:

- Turn off an external display after 15 minutes of user inactivity
- Initiate a low power sleep mode for the computer after 30 minutes of user inactivity

ENERGY STAR® qualified computers exit the low power sleep mode and ENERGY STAR qualified displays resume operation when the user resumes use of the computer. Examples include the user pressing the power/sleep button, receiving an input signal from an input device, receiving an input signal from a network connection with the Wake On LAN (WOL) feature enabled, etc.

Additional information on the ENERGY STAR® program, its environmental benefits and the potential energy and financial savings of the power management feature can be found on the EPA ENERGY STAR Power Management Web site at www.energystar.gov/powermanagement.

## Disposal of Waste Equipment by Users in Private Household in the European Union

This symbol on the product or on its packaging indicates that this product must not be disposed of with your household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling or waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact the local city office, the household waste disposal service or the shop where you purchased the product.

## Chemical Substances

HP is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and Council). A chemical information report for this product can be found at http://www.hp.com/go/reach.

## HP Recycling Program

HP encourages customers to recycle used electronic hardware, HP original print cartridges, and rechargeable batteries. For more information about recycling programs, go to www.hp.com/recycle.

## Restriction of Hazardous Substances (RoHS)

A Japanese regulatory requirement, defined by specification JIS C 0950, 2005, mandates that manufacturers provide Material Content Declarations for certain categories of electronic products offered for sale after July 1, 2006. To view the JIS C 0950 material declaration for this product, visit www.hp.com/go/jisc0950.

2008年、日本における製品含有表示方法、JISC0950が公示されました。製造事業者は、2006年7月1日以降に販売される電気・電子機器の特定化学物質の含有につきまして情報提供を義務付けられました。製品の部材表示につきましては、www.hp.com/go/jisc0950を参照してください。

### 产品中有毒有害物质或元素的名称及含量

**根据中国 《电子信息产品污染控制管理办法》**

**LCD 显示器**

| 部件名称 | 有毒有害物质或元素 | | | | | |
|---|---|---|---|---|---|---|
| | 铅 (Pb) | 汞 (Hg) | 镉 (Cd) | 六价铬 (Cr(VI)) | 多溴联苯 (PBB) | 多溴二苯醚 (PBDE) |
| 液晶显示屏 – CCFL | X | X | O | O | O | O |
| 液晶显示屏 – WLED | X | O | O | O | O | O |
| 机箱 / 其他 | X | O | O | O | O | O |

O: 表示该有毒或有害物质在该部件所有均质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。

X: 表示该有毒或有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。

表中标有 "X" 的所有部件都符合欧盟 RoHS 法规，即 “欧洲议会和欧洲理事会 2003 年 1 月 27 日关于在电子电气设备中限制使用某些有害物质的 2002/95/EC 号指令”。

注：环保使用期限的参考标识取决于产品正常工作的温度和湿度等条件。

## Turkey EEE Regulation

In Conformity with the EEE Regulation

EEE Yönetmeliğine Uygundur